American Farmer,

AND SPIRIT OF THE AGRICULTURAL JOURNALS OF THE DAY.

"O Fortunatos nimium sua si bona norint
"Agricolas." . . . . *Virg.*

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☞To our Subscribers—By a regulation of the Department, post-masters are permitted to frank all subscriptions and remittances for newspapers, without expense of postage—the name of the P. M. as well as the word '*free*' is required to be placed on the letter. We would respectfully urge attention to this, as by neglect thereof we are subject to a grievous tax, which is the more provoking because unnecessary.

The American Agriculturist—We have received the first number of this work. It is published in New York monthly, in royal octavo form, and edited by Messrs. A. B. and R. L. Allen, at $1 a year. The number before us is well filled with editorial and original communications, and evince both tact and talent in its conductors, who are, as many of our readers are aware, gentlemen long known to the agricultural community for their eminence as breeders and intelligence.

☞Any of our friends wishing to subscribe for the above work, or for the "*New Genesee Farmer*," edited by Mr. Colman, (the latter 50 cts. per annum,) can be supplied by leaving their money at this office.

The South Western Farmer—A new agricultural paper with this title has been commenced at Raymond, Mississippi, by N. G. North. From the first number we find that it is to be devoted to the promotion of the culture of such products as are adapted to that region of country. The contents of the sheet before us is indicative of zeal, industry and talent, and we trust its projector may find his anticipated hopes of success more than realized.

Dana's Muck Manual—The notice which we publish of this new work, will be read with interest by every inquiring agriculturist, as it contains much within a narrow compass, which is calculated to instruct and throw light upon the noble science of husbandry. The publisher would do well to send some copies this way for sale.

A new Agricultural Society—We are gratified to learn by the last Leesburg Genius of Liberty, that a meeting was held on the 14th ultimo, at that place, to take the incipient steps for the formation of an agricultural society in Loudoun county. The meeting was organized by calling Maj. W. C. Selden to the chair, and appointing Mr. Robt. P. Swann, Secretary—Mr. Geo. Cuthbert Powell explained the object of the meeting, when the necessary appointment of committees took place. the duty of one of which, consisting of persons from each precinct in the county, is, to solicit subscribers. From the deepest well of our heart we say, God speed the good work.

The Art of Culture—*Fallow Crops*—Under this head we give to-day, a copy of the remarks of *Leibig* upon these interesting subjects, and bespeak for them the attention of our readers, and shall follow them up next week with the observations of the same eminent author upon "*the interchange of crops*," and "*theories of its use.*"

We have given in this number a few extracts from the "*Transactions of the Connecticut Agricultural Society*," to show, by the experience of the very notable farmers of that state, the value of the following articles as manure, viz: "*mixed earths and creek mud, yard or stable dung and tanner's bark*," as also that of "*ploughing in clover and buckwheat*," or other green crops.

We have frequently noticed one of the substances named in these experiments, viz. *tanner's bark*, as being worthy of being used as a manure, and we think that, wherever it may be convenient, the farmer would find it worth his while to cover his cow-yard with it in early fall, and to use it in his pig pens and stables as a means of absorbing the urine of his horses, cows, oxen, and hogs. We do not pretend to say, that, in its undecomposed state, it would afford nourishment to plants, but that, by its power of absorption, it would act as a recipient and reservoir of the invaluable liquids which are now lost in most establishments; which liquids, by means of the bark, would be gradually given out, and thus, by the ammonia eliminated, would the plants be promoted in their growth. Nor would the resulting benefits stop here; for, by admixture with the animal manures, sufficient heat and moisture would be produced to induce decomposition, by which process carbon would be generated; and, if we err not in our conceptions of its value, tanners' bark, thus treated, would not only prove a *prompt*, but lasting manure. We all know that one of the objects to be attained by meliorating the texture of cohesive clays, is the admission of heat, air and moisture, which, in our opinion, would be effected by a dressing with this substance.

St. John's wort—A Mr. Mott, in the Maine Farmer, says, that this *weed* will cure the consumption. If it will do *that*, it is the first thing we ever heard it was good for; but as we live to learn, and as every thing was intended by Providence, doubtless, for some good purpose, it may be, that this hitherto considered *pest*, may prove a blessing.

Fish as a Manure—The virtues of fish as a manure have been known for many years, but still few of those persons living on our numerous bays, rivers, and creeks, abounding in them, give themselves the trouble to profit by this knowledge, although it would possibly be as cheap a way as any they could adopt to manure grounds immediately contiguous to such waters. We have seen the happiest effects resulting from a single fish placed in each hill of corn in a small patch of about a quarter of an acre, and were perfectly satisfied from the result, that we were well paid for our trouble, although we hauled the fish with which we made the experiment fully two miles. To the eastward, to wit, in Rhode Island, fish is extensively used for manuring, and always with decided advantage. In some instances by the free use of them almost barren sands have been converted into fruitful soils.

☞Erratum.—In our article last week under the head of "*Sainfoin*," an error occurred which is too important to be permitted to remain uncorrected. In the second column, the word "*pounds*" was omitted in the paragraph prescribing the quantity of seed per acre, and which omission would make us say, that in addition to the *Sainfoin* seed, 6 or 8 bushels of clover should also be sown on an acre. This every reader of sense would at once reject as worse than nonsense. The paragraph should read thus—

"*Quantity of seed per acre*—from 4 to 8 bushels the acre, with, or without, 6 or 8 pounds of clover."

While we have pen in hand we would advise the sowing of clover seed in every instance with sainfoin—and in no instance would we sow sainfoin without soaking the seed in a solution of horse dung tea and salt-petre, as it ought to be the object of the cultivator to make it germinate as rapidly as possible, in order that it may have a chance to enter the lists with weeds, on a footing of equality.

A mammoth Hog—A hog was killed at Geneva, N.Y. last week, which weighed alive 1108 pounds, and when dressed 1040 pounds; his length from the end of the nose to the root of his tail was 7 ft. 8 in.; he was 3 ft. 9 in. high, and measured around the girth 7 ft. 5 in.; he was 2 years 11 months old. His immense size congregated together about 400 persons on the occasion of his being slaughtered, which event will doubtless be cherished with great tenacity of memory by all who were so fortunate as to be present. It is not mentioned to what breed this mountain of hog-flesh belonged, but we think it very natural to infer, that one of the peculiar attributes of his race was that of kindly feeding, as aptitude to take on fat, is but an indifferent guaranty for great size, unless it be well backed by generous diet. Falstaff would have been as thin as Cassius himself, but for sack, mutton chops and roast beef.

Root Crops.—Those who may intend to cultivate roots this season, should, so soon as they shall have planted their corn, set to work to prepare their land for the reception of the former. Beets, Carrots and Parsnips should be got in as soon this month as possible, and by all means within the first few days of the ensuing one. And so far as *Ruta-baga* may be concerned, it is time to be preparing for it, for besides the accumulation of manure, a thing sometimes not easy of attainment, the best crops always succeed upon grounds which have been ploughed more than once. A large yield of this root, except upon very rich ground, can only be secured by heavy manuring. It is a greedy feeder, and delights in a deep, thoroughly pulverized soil. Where the thing can be effected, besides manuring broad cast, the drills should also receive a generous allowance. The reader will, therefore, perceive that, by the time he may have snugly got through with his corn, it will be time to be getting ready for his roots.

Hemp—The culture of hemp is rapidly extending in the states of Missouri and Illinois, as well as in the western territories.

SOME REMARKS ON THE

MANUFACTURE OF MAIZE SUGAR,

By William Webb, of Wilmington. Del.

(Published be the National Agricultural Society.)

Concluded.

"It is a part of the system of cane planting in Louisiana, to raise as full a stand of cane upon the ground as possible; experience having proved that the most sugar is obtained from the land in this way." As far as my experience has gone, the same thing is true of corn. This point must therefore be attended to, and the deficiencies, if any occur, made up by timely replanting.

The next operation is taking off the ears. Many stalks will not produce any, but wherever they appear, they must be removed. It is not best to undertake this work too early; as when the ears first appear, they are tender, and cannot be taken off without breaking, which increases the trouble. Any time before the formation of grain upon them, will be soon enough.

Nothing farther is necessary to be done until the crop is ready to cut for grinding. In our latitude, the cutting may commence, with the earlier varieties, about the middle of August. The later kinds will be ripe in Sept'r, and continue in season until cut off by frost. The stalks should be topped and bladed while standing in the field. They are then cut, tied in bundles, and taken to the mill. The top blades, when properly cured, make excellent fodder, rather better, it is believed, than any hitherto used; and the residuum, after passing the rollers, may easily be dried and used in the same way; another advantage over the cane, which, after the juice is expressed, is usually burned.

The mills should be made on the same general principle employed in constructing those intended for grinding cane. An important difference, however, will be found both in the original cost, and in the expense of working them. Judging from the comparative hardness of cane and corn stalk, it is believed that one-fourth part of the strength necessary in the construction of a cane mill, will be amply sufficient for corn; and less than one-fourth part of the power will move it with the same velocity. It may be made with three upright wooden rollers, from twenty to forty inches in length, turned so as to run true, and fitted into a strong frame work, consisting of two horizontal pieces sustained by uprights. These pieces are mortised to admit wedges on each side the pivots of the two outside rollers, by which their distances from the middle one may be regulated. The power is applied to the middle roller, and the others are moved from it by means of cogs. In grinding, the stalks pass through on the right side of the middle cylinder, and come in contact with a piece of frame work called the dumb returner, which directs them backwards so that they pass through the rollers again on the opposite side of the middle one. The modern improved machine is made entirely of iron; three horizontal rollers arranged in a triangular form one above and two below, the cane or stalk passes directly through, receiving two pressures before it escapes. The lower cylinders are contained in a small cistern which receives the juice. The latter machine is the most complete, the former the least expensive. These mills may be moved by cattle, but for large operations, steam or water power is preferable. When the vertical cylinders are turned by cattle, the axis of the middle one has long levers fixed across it, extending from ten to fifteen feet from the centre. To render the arms firm, the axis of this roller is carried up to a considerable height, and oblique braces of wood by which the oxen or horses draw, are extended from the top of the vertical axis, to the extremities of each of the arms. When horizontal cylinders are propelled by animal power, the upper roller is turned by cogs at one end, which are caught by cogs on a vertical shaft. It is said that in the West Indies, the purest cane juice will ferment in twenty minutes after it enters the receiver. Corn juice has been kept for one hour before boiling, without any apparent injury resulting; but so much delay is not desirable, as it may be attended with bad effects.

The process which has been employed in the manufacture of Maize sugar, is as follows: The juice, after coming from the mill, stood for a short time to deposite some of its coarser impurities; it was then poured off, and passed through a flannel strainer, in order to get rid of such matters as could be thus separated; lime water, called milk of lime, was then added in the proportion of one or two table spoon's full to the gallon. It is said by sugar manufacturers, that knowledge on this point can only be acquired by experience; but I have never failed in making sugar from employing too much or too little of the lime. A certain portion of this substance, however, is undoubtedly necessary, and more or less than this will be injurious; but no precise directions can be given about it. The juice was then placed over the fire, and brought nearly to the boiling point, when it was carefully skimmed, taking care to complete this operation before ebullition commenced. It was then boiled down rapidly, removing the scum as it rose. The juice was examined from time to time, and if there was an appearance of feculent particles which would not rise to the surface, it was again passed through a flannel strainer. In judging when the syrup was sufficiently boiled, a portion was taken between the thumb and finger, and if when moderately cool, a thread half an inch long could be drawn, it was considered to be done, and was poured into broad shallow vessels to crystalize. In some cases crystallization commenced in twelve hours; in others, not till after several days; and in no case was this process so far completed as to allow the sugar to be drained in less than three weeks from the time of boiling. The reason why so great a length of time was required, I have not yet been able to discover. There is no doubt but that an improved process of manufacture will cause it to granulate as quickly as any other.

In a manual on the subject of cane sugar, prepared a few years since, in compliance with a resolution of the House of Representatives, some improvements were suggested on the usual mode of operation, which appear equally applicable to the corn. They are at least worthy of trial. The author remarks that "Defecation is the great problem of sugar making, and that it is one of no easy solution is proved by the unsatisfactory experience of centuries. We shall venture to advance a plan relative to this subject, which is in some respect new, and is founded on the view we have taken of the chemical composition of cane liquor. The cane juice, after having been suffered, by standing, to deposit its coarser impurities, should be drawn off to a rectangular vat, having a double bottom, and whose depth is equal to its diameter; in this vessel it must be subjected to a temperature of 208 to 210° F. From this vessel after a repose of about forty-five minutes, its clear contents are to be drawn, by an orifice placed one inch above the bottom, into a vat of similar construction, whose top is situated four inches above the bottom of the first—taking the precaution to pass the liquor, in its passage from one vat to the other, through a filter of coarse cotton bagging. What remains in the vat is then to be drawn off through an orifice, on a line with the bottom, and suffered to settle in casks, the clear portion being added eventually to the second vat. The filtered liquor, in the second receiver, is now treated with a milk of lime, formed by adding perfectly impalpable slacked lime to water, in the proportion of not less than four cubic inches to a gallon, the steam being let in previous to the addition of the lime. The quantity of temper is to be regulated as follows: after the additions of temper, portions of the liquor are examined, from time to time, by passing it through a fine cloth filter, and adding to it, in a wine glass, a tea-spoon full of clear lime water; so long as a cloudiness appears in the liquor, on the application of this test, more milk of lime must be added. The heat must be carried at 210° F., when the steam must be cut off, after a repose like that above described, it is run off by means of an orifice, one inch above the bottom, until it begins to appear cloudy, when this orifice is closed, and another, situated on a level with the bottom, is opened, and the remainder is run off into a tub or barrel to settle for future decantation. The defecated liquor is made to traverse a bagging filter, as before, on its way to a general reservoir near the grade, and which should be capable of holding one thousand gallons. Sulphuric acid, diluted with twenty times its weight of water, or tartaric acid, dissolved in ten times its weight of water, is added, from time to time, to this reservoir, in quantities sufficient to maintain its contents, as nearly as posible, in a state of neutralization, or in such a condition that there will be no alkaline reaction on paper stained with yellow by a strong decoction of turmeric.

"The reasons for the foregoing plan are the following: Heat alone is sufficient for the separation of the albumen, and a large portion of the green fecula. The first heating, therefore, coagulates the albumen completely, the greater part of which will rise to the surface in a scum, more or less tenacious, bringing along with it a part of the precipitated fecula; while another portion of these impurities then falls to the bottom, along with insoluble earthy matters, pieces of cane, &c. And on being transferred to the second vat, the quantity of lime required for rendering insoluble the balance of the coloring matter in the juice is greatly reduced, while its mischievous influence in rendering albumen soluble is avoided, since the principal part is already removed. The filters collect those flocculi which had escaped the process of subsidence; and the addition of sulphuric acid, or of tartaric acid, removes from the defected liquor all excess of lime which it may contain, and the insoluble precipitate of sulphate of lime subsides on the bottom of the general reservour, without going forward to injure the kettles by the formation of a thick crust.

"It will be at once apparent, wherein the present method of defecation has advantages over that where steam vats are employed, since by that plan a large portion of the albumen was rendered permanently soluble by the lime employed for throwing down the green fecula; and besides, no measures were taken for getting rid of the superfluous alkali remaining in solution, after the defecation was completed—the alkali being left to enter into union with the sugar, and by its subsequent action upon it in the kettles, to convert it into gum."

For evaporation, flat bottomed pans are recommended, made either of copper or boiler sheet iron. If the situation will admit, they should be so arranged, that the juice will run from one to the other, and thus save the trouble of lading. The lower pan should be furnished with a spout at the bottom, (not less than four inches in diameter,) by which its contents can be drawn off. The shape of these vessels should be oblong, their sides and ends sloping at angles somewhat different in each. In the upper pan where the juice first enters, the sides form an angle with a line perpendicular from the bottom of about 30°. In the lowest pan, this angle should not be less than 45°. Skimmers with rectangular, instead of circular edges, must be employed for removing scum. The syrup is brought, in the latter vessel, to about 25° by the saccharometer, when it is withdrawn into a large wooden reservoir, whose depth should be at least three feet. To finish the evaporation the Bascule pan is recommended; this is extensively used in Louisiana, and has over the kettles the advantages of completing the operation with greater rapidity and safety—of enabling the operator to carry the boiling completely to the point of granulation, and then to decant the whole charge instantaneously into the cooler; also of giving to the syrup time for depositing a heavy sediment of impurities, not otherwise separable from it, but which, on the old plan, goes forward to impair the granulation, and to discolor the sugar; and, finally, of allowing the proprietor to superintend in person the concluding and most delicate part of the manufacture: one Bascule pan being sufficient to evaporate to the granulating point, in twelve or fifteen hours, all the juice which two sets of kettles can evaporate in twenty-four hours, to the point of concentration mentioned above. This pan is of a circular form, made of copper, fourteen inches deep, five and a half feet in diameter, and sixteen inches deep near the lip, or in these proportions. It is mounted over a separate furnace—is moveable upon its axis, and is furnished with a large lip, over which the whole contents may be poured into a receiver. On the side of the vessel opposite the lip is a rope or chain attached to a pulley over head, by means of which it is quickly emptied. "In using this pan, the juice is evaporated in the kettles as before, but is struck, between 25° and 28° of the Hydrometer of Baume, into a large cistern capable of containing at least four or five hogsheads, where it cools, and deposites a thick sediment. From this reservoir, it is pumped up, from time to time, into a smaller one situated just above the Bascule pan. The operation with this apparatus is as follows: The gate attached to the reservoir of syrup is raised, and the bottom of the pan covered to the depth of four inches. A brisk fire being kindled under it, boiling soon commences; a slight scum rises, which flows down into the lip, whence it is removed by means of a hand skimmer. The striking point is ascertained as in the kettles, except that a thermometer is often made use of to learn its approach. When struck, the thermometer stands from 236° to 238°.

"To assuage excessive ebullition, it is customary to throw in a small piece of lard or of butter just previous to the completion of the cooking; and at the moment of decanting the charge, notice is given to the fire-man, who closes the ash-pit door to prevent the flames from rushing up into the boiling apartment, to the inconvenience of the operator, who is stationed upon the rim of the furnace by the side of the pan. Immediately on its being discharged, it is suffered to fall back to its place, and the gate of the reser-

voirs is lifted as soon as possible, in order to cover the bottom of the pan before it becomes too hot from the action of the flame.

"The time required to perform the operation varies from twenty to thirty minutes, and the result is a highly improved sugar, with the estimated gain of one hogshead in fourteen over the old method."

Dutrone found, by experiment, that the quantity of mater which unites the most favorable circumstances for crystalizing the sugar, is from fifteen to sixteen cubic feet; and it was from this knowledge, that he regulated the form and dimensions of the cases about to be described. He made many trials of cases differently shaped at bottom, and ultimately fixed upon the following, as most convenient and effective. The crystalizing case is made of wood, and ought to be five feet long and three feet wide. Its bottom is formed of two planes (like a trough) the uniting of which forms a channel. Along this channel twelve or fifteen holes, an inch in diameter, are bored for the molasses to drain through; the depths of the case is nine inches at the side, increasing towards the channel, where it is fifteen inches. When syrup is poured into these cases the holes are stopped with plugs; after it has crystalized, these are removed, and the sugar becomes drained. The rooms in which the operations of crystalizing and draining, or curing, are carried on, should be kept at an even temperature of about 80° F.

Enough has been said to enable any one so disposed to manufacture sugar from Maize, either on a large or a small scale. As to the profits of the business, I shall make no positive assertions; experience on the subject is yet too limited to warrant them; and as all the facts in relation to it are now before the public, every one interested can draw his own conclusions. It is said by those acquainted with the cultivation of the cane, that the business cannot be carried on profitably on less than one hundred acres in crop, and that attempts on a small scale will be certain to fail with a great loss of time and labor. How far this may be applicable to corn, remains to be seen.

Some comparison between the cultivation of cane and that of corn may perhaps be interesting.

The cane lands in Louisiana are redeemed to agriculture, by strong embankments along the river, and by numerous ditches, which extend back into the swamp to a considerable distance beyond the line of cultivation. The ground is still further divided by smaller ditches into lots of from one to two acres in extent. It is extremely rich and productive; but the expense of draining, and keeping up the embankments, must be very considerable; this forms the first difference to be noted in the culture of the two plants under consideration.

The best season for planting cane in Louisiana, is in the fall, which is also the time of harvest, when labor is most valuable, and the greatest exertions are required to secure the crop before it is destroyed by frost. But the most striking difference will be found in the cost of seed, and in the labor of planting. The cane is propagated by layers; these are partly furnished from the tops of the plant, when cut for grinding, but are principally rattoons. Of the latter, it requires the produce of one acre to plant three. The grain from one acre of corn will be sufficient for planting forty acres. Therefore, the difference in expense for seed, will be as one to thirteen.

In planting cane, furrows are made with the plough from two and a half to three feet apart; in these the layers are placed in a double row, and the earth drawn over them with hoes to the depth of three or four inches. In the spring, before the plants are up, this covering is partly scraped off, so as to leave them buried from one to two inches.

From this account, it is evident, that no more manual labor will be required to drill fifty acres in corn, than to plant one acre in cane. The labor of cultivating the latter plant during its growth, is also greater; but this may be balanced by the extra work required to take off the embryo ears from the corn. When cultivated in the mode recommended, the stalk of corn is soft, remarkably heavy and full of juice from bottom to top. The amount of power required for grinding them must be much less than is necessary for cane—or, what is the same thing, an equal power will do it with greater rapidity. The average yield of cane in Louisiana, is one thousand pounds of sugar, and forty-five gallons of molasses per acre.

From the above comparative statement, it would appear that one half this amount of crop from corn would be equally, if not more profitable.

I will only add in conclusion, that whether or not sugar from the corn-stalk may soon become an article of profitable export—its manufacture in the simplest form will enable every family to supply themselves with this article for common use, now become so much a necessary of life, and thus save a considerable bill of expense, yearly paid for foreign sugars.

(Translated at the Patent Office, and highly confirmatory of Mr. Webb's essay. H. L. ELLSWORTH.)

Extract from Annales de la Société Polytechnique Pratique, No. 22, for October, 1839.

Sugar of Corn.—There is no plant of greater general interest or utility than Indian corn. It can serve, under a great variety of different forms, for the nourishment of man and the domestic animals, and above all, the application of industrious science.

In reference to its saccharine qualities, Maize has not been sufficiently appreciated. Travellers report, that under the tropics the stalk of this plant is so very saccharine that the Indians suck it as in other places they do the sugar cane.

M. Pallas, who has made a great many researches on this application of Maize, has arrived at a remarkable result—he has found by many experiments both in France, and more recently in Africa, that this vegetable, by a simple modification applied to its culture, is able to furnish a much more considerable quantity of sugar, than by the ordinary method.

This method consists in detaching from the plant, immediately after the fecundation of the ovaries (after the plant has tasselled) the young ear, and to leave it to develop itself thus deprived of its fruit. Arrived at maturity, the stalk of the Indian corn contains crystalizable sugar in quantity very often double that obtained when the plant is left to mature with the grain. In fact, by the ordinary mode of culture, the grain is nourished at the expense of the sugar in the stalk, as it absorbs a great quantity of this immediate principle, which, by the process of nutrition, is converted into starch. On the other hand, if the young ears are immediately destroyed, the sugar intended to nourish them remains in them where it accumulates, and the Maize plant is thus converted into a true sugar cane, while the fibrous part can be manufactured into paper.

The quantity of sugar is so very great in the stalk of the Maize deprived of the ear, that the pith of this vegetable retains a sensible flavor of sugar even after it has been dried, as is easily proved by examining the specimens deposited by M. Pallas in the Bureau of the Academy of Sciences. These results are so important as to merit experiments on a grander scale, which may obtain thus for France a source of new industry in the manufacture of sugar.

From Professor Leibig's Chemistry of Agriculture, &c.

THE ART OF CULTURE—FALLOW CROPS.

De Saussure remarked, that plants require unequal quantities of the component parts of soils in different stages of their developement; an observation of much importance in considering the growth of plants. Thus, wheat yielded $\frac{72}{1000}$ of ashes a month before blossoming, $\frac{54}{1000}$ while in blossom, and $\frac{33}{1000}$ after the ripening of the seeds. It is therefore, evident, that wheat from the time of its flowering restores a part of its organic constituents to the soil, although the phosphate of magnesia remains in the seeds.

The fallow-time, as we have already shown, is that period of culture during which land is exposed to a progressive disintegration by means of the influence of the atmosphere, for the purpose of rendering a certain quantity of alkalies capable of being appropriated by plants.

Now, it is evident, that the careful tilling of fallow land must increase and accelerate this disintegration. For the purpose of agriculture, it is quite indifferent, whether the land is covered with weeds, or with a plant which does not abstract the potash enclosed in it. Now many plants in the family of the *leguminosæ*, are remarkable on account of the small quantity of alkalies or salts in general, which they contain; the *Vicia faba* (Windsor bean,) for example, contains no free alkalies; and not one per cent. of the phosphates of lime and magnesia. (*Einhof.*) The bean of the *Phaseolus Vulgaris* (Kidney bean) contains only traces of salts. (*Braconnot.*) The stem of the *Medicago sativa* (Lucerne) contains only 0.83 per cent., that of the *Ervum Lens* (Lentil) only 0.57 of phosphate of lime with albumen. (*Crome.*) Buckwheat dried in the sun yields only 0.681 per cent. of ashes, of which 0.09 parts are soluble salts. (*Zenuch.**) These plants belong to those which are termed fallow-crops, and the cause wherefore they do not exercise any injurious influence on corn which is cultivated immediately after them is, that they do not extract the alkalies of the soil, and only a very small quantity of phosphates.

It is evident that two plants growing beside each other will mutually injure one another, if they withdraw the same food from the soil. Hence it is not surprising that the *Matricaria chamomilla* (Wild Chamomile) and *Spartium scoparium* (Scotch Broom) impede the growth of corn, when it is considered that both yield from 7 to 7.43 per cent. of ashes, which contain $\frac{5}{10}$ of carbonate of potash. The darnel, and the *Erigeron acre* (Fleabane,) blossom and bear fruit at the same time as the corn, so that, when growing mingled with it, they will partake of the component parts of the soil, and in proportion to the vigor of their growth, that of the corn must decrease; for what one receives, the others are deprived of. Plants will, on the contrary, thrive beside each other, either when the substances necessary for their growth which they extract from the soil are of different kinds, or when they themselves are not both in the same stages of development at the same time.

On a soil, for example, which contains potash, both wheat and tobacco may be reared in succession, because the latter plant does not require phosphates, salts which are invariably present in wheat, but requires only alkalies, and food containing nitrogen.

According to the analysis of *Posselt* and *Reimann*, 10,000 parts of the leaves of the tobacco plant contain 16 parts of phosphate of lime, 8.8 parts of silica, and no magnesia; whilst an equal quantity of wheat-straw contains 47.3 parts, and the same quantity of the grain of wheat 99.45 parts of phosphates. (*De Saussure.*)

Now, if we suppose that the grain of wheat is equal to half the weight of its straw, then the quantity of phosphates extracted from a soil by the same weights of wheat and tobacco must be as 97.7 : 16. This difference is very considerable. The roots of tobacco, as well as those of wheat, extract the phosphates contained in the soil, but they restore them again, because they are not essentially necessary to the developement of the plant.

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*The small quantity of phosphates which the seeds of the lentils, beans, and peas contain, must be the cause of their small value as articles of nourishment, since they surpass all other vegetable food in the quantity of nitrogen which enters into their composition; but as the component parts of the bones (phosphate of lime and magnesia) are absent, they satisfy the appetite without increasing the strength.—*L.*

MUNIFICENT GIFTS.—*Benj. Bussey*, of Boston, who lately died, has left at the decease of some heirs, half of his estate, valued at more than $300.000, for the establishment of an agricultural school on his beautiful and highly improved farm in Roxbury, Massachusetts.

John Conant, of Jaffrey, N. H. has given his valuable farm of 230 acres with all its appurtenances to the Cheshire County Agricultural Society for the establishment of an Agricultural School.

What a rebuke is spoken through such munificent donations as these from private individuals, to the *politicians* into whose hands our state governments have fallen.

MILDEW UPON GOOSEBERRIES.—Advice from one competent to give it.—"Say to the growers of gooseberries, if they wish to keep off mildew, train your bushes so as to admit a free circulation of air through them; manure about the roots; and forget not to sprinkle them with soap-suds on washing days, three or four weeks in succession before blossoming; and they cannot miss having fine, fair, large berries. I known this by several years' experience. Let them try and see."

Tobacco from a New Quarter.— The Mobile Price Current of the 20th, states that seven hogsheads of Tobacco from Floyd county, Ga., on the head waters of the Coosa river, has been received; two of which were sold by Mr. Samuel Robinson, a merchant of that city, at 5 ¾c. and five by Mr. John T. Donald, at 5c per lb. The quality is fully equal to *Virginia seconds*, and the sales were for export. It learns that the planters in the whole of that section of Alabama and Georgia known as the *Cherokee* country, intend turning their attention more to the culture of Tobacco, for which the soil in that region is said to be admirably adapted. Tobacco at 4½ to 5c. it is believed will be more profitable than cotton at present prices.

Rolling and Harrowing Rye and Wheat in the Spring.

We have often urged the propriety of adopting this mode of treating these grains in spring, when growing in grounds subject to freezing out, and we are happy to find ourself sustained in the subjoined article by the distinguished editor of the New Genesee Farmer:

ROLLING WHEAT IN THE SPRING.

Mr. Colman—It is evident that much of the wheat thro' the country, especially on moist mucky lands, is injured by the frequent freezing and thawing the past winter; unless something can be done to remedy the evil, to some extent, we have to fear quite a failure in the coming crop.

Farmers may say that they have done all that they can do to secure a crop; but there is one thing which, if done in season, may effect a great saving. Let every farmer who has not one, provide himself with a good roller, and as soon as the season of freezing and thawing is over, roll his wheat fields thoroughly, and I have no doubt that it would save thousands of bushels of wheat in Western N. York, the present season. Farmers! try it, leaving a part of a field unrolled, and give to the community the result of your experience at some future time. M. N.

Editorial Remarks—Rolling and harrowing Wheat.

The above advice is seasonable, and, we have no doubt judicious. We should recommend something more than rolling; and that is, harrowing before rolling. As soon as the land is well dried, give your wheat fields a good harrowing, by passing over them with a horse harrow or one not too heavy; then roll them. In a fortnight or three weeks more go over them again with a harrow and a roller. Do not be afraid of destroying your wheat; unless your harrowing is too heavy you will not displace or pull up many plants; and the advantages which those remain will derive from the operation will be a full compensation for any loss in this way. We have fully tested this matter more than once, having harrowed our wheat crops twice in a season, and after the plant was 8 or 10 inches in height; and with decided advantage, having left in such cases part of the field untouched with a view to determine the expedlency or inexpediency of the operation. The result has been highly beneficial. The effect of it is, by stirring the ground, to bring the air to the roots of the plant, and to loosen the soil so that they may extend themselves freely; this induces a vigorous vegetation, and causes the plant to tiller abundantly and throw out numerous shoots from the crown. We advise to harrowing only in one direction; the rolling will serve to break the clods and to fix the plants, which are thrown up, in the ground. In England, wheat is frequently sown in drills with a machine adapted to the purpose; and afterwards cultivated by a cultivator, contrived to pass thro' and loosen the soil in the rows, as we plough and cultivate between the rows of our Indian corn. This is said always to be beneficial to the crop, though with our imperfect means such refined tillage can hardly be looked for, and with prices of labor among us, might not be compensated.

We have yet to learn the value of constant tillage to the growing plant; and believe it would be found of the highest importanee to our Indian corn to plough and cultivate it much more than we do. These suggestions coincide with the true philosophy of vegetation as far as it is understood, as such tillage causes a discharge of ammonia from the decaying vegetable matter in the soil, and quickens the receptive powers of the roots and leaves of the plant to take it in.

NORTHERN CROPS—In the last N. E. Farmer there is the report of Mr. Danl. P. King, in behalf of the committee on crops of the Agricultural society of Essex co. Mas. from which we learn that the following were the acreable products of certain farms in that county during the last year:

Of *Wheat*, 24, 25 and 32 bushels.
Of *Indian Corn*, 84, 90¼, 90¾, 105, 110, 113, 115 and 117½ bushels.
Of *Barley*, 50, 51½, 52 and 54 bushels.
Of *Rye*, 40 and 56 bushels.
Of *Oats*, 1000 bushels on 20 acres, averaging 50 bushels to the acre.
Of *Carrots*, 849, 864, 878, 900 bushels.
Of *Mangel Wurtzel*, 924, 1340, at 56 lbs. to the bush.
Of *Beets*, 783 bushels.
Of *English Turnips*, 636, 667, 672, 751, 814 bushels.
Of *Onions*, 651, 900 bushels.

In commenting upon these products, Mr. King very justly remarks:

"Some of these quantities appear large, but the amount which may be raised on a well manured and thoroughly cultivated acre, would astonish any one who has not witnessed the experiment. A great cause of the want of success of many farmers is their attempt to cultivate too much land. To own or to cultivate an extensive territory, is a poor ambition. *Our object should be to show how well, and not how much we can till.* When stern necessity, or good policy, or the dispensation of providence has divided farms, we have often noticed that the several parts became more productive, and in such cases it is almost always true, that the half is better than the whole. Whenever a farmer becomes satisfied that he is cultivating too much land, he should sell off or lease his supernumerary acres, or turn them into pasture. The labor and expense of raising thirty bushels of corn is three-quarters as much as of raising sixty bushels to the acre."

On the subject of raising roots for feeding stock, he entertains the following sound views:

"Many of our farmers have yet to learn the great advantage of cultivating extensively root crops, as a winter feed for stock. A large portion of our time and strength is expended in procuring this feed: it is now principally hay and corn fodder. The average quantity of hay to the acre is less than a ton and a half; but 15 or even 20 tons of carrots and mangel wurtzel, are not very extraordinary. The expense of raising these roots is considerable, but commonly it does not exceed $6 per ton. There cannot be a doubt that as food for cattle, two tons of them are worth at least as much as one ton of hay, and that stock kept in part on roots, are in better health and condition, and make more valuable manure."

As we premised in the introduction to this paragraph, these views are sound, but they do not go far enough, as Mr. King might have added, that milch cows, if thus fed, would yield more and richer milk, and consequently more and butter butter, whether regard be had to color or flavor. We have thought it our duty to make this extract from the paper of this writer, because there is still time for farmers to practice on his excellent suggestions, and thus prove by their own experience, the best of all teachers, the truth of them. Why is it that milch cows fall off so materially in the fall and winter, in their usual quantities of milk? Why, because being deprived of succulent grasses, and fed on *dry* hay, or fodder, the substances taken into their stomachs are not of a character to encourage the secretion of milk. Such being the case, it appears to us, that common prudence would suggest the propriety of supplying them, during winter, with such food as will serve as a substitute for grasses; and surely it may with propriety be affirmed, that there are no other substances so well calculated to answer the purpose as roots.

For the American Farmer.

Mr. Editor:—In your paper of March 30, you notice, that a discussion is carried on in the Cabinet, on the subject of the virtues and applicability of magnesian lime for Agricultural purposes. I feel some interest on the subject, and having made some experiments with magnesia as well as with other earths and alkalies, I am perfectly satisfied that ten per cent of magnesia in lime, is an advantage in its use for agricultural purposes. Should any of your subscribers have a different opinion, and will give his reasons to the public, I will endeavour to defend my position. Yours, B.

For the American Farmer.

Mr. Editor:—When I commenced planting sugar beets, mangel wurtzel and ruta baga, great inconvenience was experienced for the want of a *drill*, and as necessity is the mother of invention, it urged me to invent or construct something for the purpose of drilling the seed.

I have already used the little machine, which has been the result of my cogitations, two years, and have been so much pleased with its performance that I cannot forego the pleasure of communicating a description of it, for the general good of my brother farmers.

I do not claim originality for every part, although I am persuaded that as a *whole* it is quite *unique*.

As it is impossible to convey a correct idea of the drill by mere words, I have made a rough drawing of it, which will at once explain its construction.

Your readers are generally acquainted with the common corn cover; to this I have attached my drill. The whole has been constructed by myself, and any person having common ingenuity and the use of tools may construct one for himself, without the expenditure of a single dollar. I am, very respectfully, yours, &c.

W. L. HORTON.

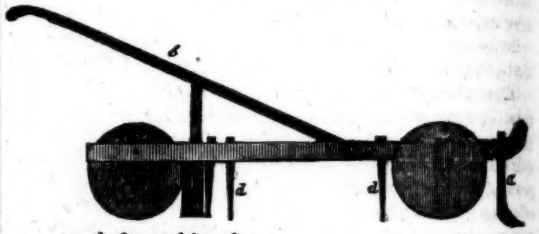
Woodlawn, Harford Co., March 26th, 1842.

Dr. Horton's Drill for Beet and Ruta Baga Seed.

FIG. I—TOP VIEW.

Explanation of Fig. I—*a. a.* side pieces, 4 ft. long, 2 in. by 3. *b.* fore piece to draw by. *c. c.* harrow teeth set obliquely to prevent clods and stones from catching. *d. d.* wheels made of white oak plank 1½ in. thick, 10 in. diameter. *e.* cylinder made of copper, tin or sheet iron, largest in the centre, perforated with holes 2 inches apart, large enough to pass a beet seed freely. *f.* a brass or copper hoop made to fit tight over the holes in the centre of the cylinder, and with small holes to correspond, just large enough to pass the seed of ruta baga. This has been found to work admirably; when the drill is moved from place to place it may be so placed as to prevent the escape of any seed. *o.* hole for introducing seed into cylinder, to be stopped with a cork. *g. g.* paddles for covering seed, made to shift to any angle desired. *h.* rollers for pressing the earth down on the seed; this is 3½ inches thick.

FIG. II.—SIDE VIEW.



a. tooth for making furrow.
b. handle. *d. d.* harrow teeth.
c. paddle for covering seed.

For the American Farmer.

BOTS IN HORSES.

There are few subjects more important to farmers or owners of horses, than a knowledge of the diseases they are incident to. I purpose giving you some extracts from a work on the subject of *Farriery*, by Thos. Wallis, surgeon, published in Dublin, Ireland, in 1776. This work is in the form of a Dictionary, and is a selection to a great extent from the writings of the Duke of Newcastle, Bracken, Gibson, La Fosse and others, with due credit to each. The article which I now send you is on the subject of Bots. He says:

"*Bots*, or *Botts*, in horses, are short thick grubs that generally are scoured away by the spring grass, and so turn insect and fly about. It is the offspring of a *fly*, which is only found in open places, for this reason, horses that go to grass or are kept in country stables, near open places are more subject to this disease, than those that are kept altogether in the stables in town. When this fly wants to deposite its eggs, it gets under the horse's tail, creeps into the annis, and glues its ova to the internal coat of the rectum so fast, that the dung in its passage cannot rub them off. They are hatched, and produce a worm composed of several rings, furnished with sharp, strong bristles, so disposed as to hinder its going backwards, but to facilitate its progress up the intestines of the horse towards its stomach, where it finds proper food—This worm has two strong unciform teeth, placed horizontally, by means of which it fastens itself to the inside of the intestines so strongly, that it requires a considerable force to pull it off alive. These worms remain in the stomach and intestines of a horse till such time as they are turned to their nymph state, and then being voided, are changed into the same sort of fly as their mother; but in case numbers of them are not destroyed by the common methods used for the cure of this disease, when they come

near to their full growth, not finding a sufficient quantity of food in the stomach, they generally, with their teeth, make a way through the coats of it, get into the abdomen in search of food, and destroy the horse."

Our author extracts these remarks from a supplement to "Woods' treatise on Farriery," and says they were furnished by Mr. Wall, a surgeon of Christ's hospital, "who from repeated experiments concluded that the best remedy for their destruction is large and frequent doses of linseed oil, which ought to be accompanied with a few glysters of the same oil. lest any worms should remain lodged in the large intestines, and after that a few doses of brisk purging physic."

Another writer quoted by Mr. Wallis, is "Bartlett"—he says:

"The bots which breed in the stomachs of horses, and are sometimes the cause of convulsions, appear to be large maggots, composed of circular rings, with little sharp prickly feet along the sides of their bellies, like the feet of hog-lice, which by their sharpness, like the points of the finest needles, seem to be of use to fasten them to the part where they breed, and draw in their nourishment, and to prevent their being loosened from such adhesion, before they come to maturity. The eggs from which these bots are produced, are dispersed into clusters all round the lower orifice of the stomach, so that when the animals come to form and life, they burst through this inner coat, with their breech and tail straight outward, and their trunks so fixed into the muscular or fleshly coat of the stomach, that it requires a good pull to disengage them; from the blood of this last coat, they draw their nourishment, which they suck like so many leeches, every one ulcerating and pursing up the part where it fixes like a honey-comb; and they often make such quick havock as to destroy the horse."

It will be perceived from the foregoing that there are two places given as being the abode of these worms, the straight gut, and the lower orifice of the stomach, under the inner coat: "those in the straight gut are often thrust out with the dung along with a yellowish colored matter, like melted sulphur; they are no ways dangerous there, but are apt to make a horse restless and uneasy, and rub his breech against the posts. The season of their coming is usually in the months of May and June, after which they are seldom to be seen, and rarely continue in any one horse above a fortnight or three weeks. Those that take their lodgments in the stomach are extremely dangerous in causing convulsions, and are seldom discovered by any previous signs, before they come to life, when they bring a horse into the most violent agonies."

"Gibson," quoted by our author, says that a spoonful of savin, cut very small, and mixed with three or four cloves of chopped garlic, given once or twice a day, will relieve a horse very much—also that horses troubled with bots ought to be purged with aloetic purges, before the weather gets too hot: the purging, which generally follows turning on grass in the spring, often answers the same purpose." R. J. C.

Of Mixed Earth and Creek Mud.—"What experiments have been made of creek or harbor mud from the sea flats? what of mud taken from fresh-water ponds? what of the soil taken from swamps overflowed? how have they been used? on what soils, for what crops, for what grasses, in what manner, in what quantities, and what advantage has been derived from them?"

Mr. Berden of Wethersfield. A piece of land in my neighborhood was manured with earth that had been leached to make saltpetre—the earth had been leached 10 years before—the land has borne surprising crops ever since this earth has been applied. I have never witnessed so great and lasting effects from any species of manure.

Mr. Hurt, of Berlin. One of my neighbors carried on to his up land mowing a number of loads of earth from under an old barn. It has improved his land surprisingly. For several years the crop has been very great.

Mr. Abel Bronson, of Waterberry. I have tried the earth, taken from the ditches in my meadows, but never found that my land received any benefit. I have carried large quantities into my hog stye and barn yard, in autumn, and in the spring have manured my Indian corn with it. I have found a load of this mixture of the earth and manure, as beneficial as a load of unmixed manure, from the barn yard or the stye. I have used the mixture, when it has lain in this situation a year, and never found any dung better.

Of Yard or Stable Dung, Tanner's Bark, &c.—"What methods have been taken to augment the manures taken from the yard or stable? What means have been found to succeed best for that purpose."

Mr. Andrew Hall, Jr., of Cheshire. I have found no manure so beneficial, on poor land, for potatoes, as the droppings of the cattle intermixed with straw, thrown into the yard to make mixture, even before it is matured.

Mr. Abel Bronson, of Waterberry. I have thrown pumice, tanner's bark, &c. into my hog stye, and found them to become very good manure.

Mr. Blakesley, of Plymouth. More than twenty years past, I had a large nursery of fruit trees. To prevent weeds, &c. from growing, I covered the ground over with tanner's bark. It prevented every thing but the trees from growing. After some years had elapsed, when the trees had all been taken from the nursery, I sowed the land with oats and clover. The oats were good, and the clover excellent. Since the clover has gone out, the natural grass has come in, and the land has continued as good as any I have. I have found bark one of the best kinds of manure.

I find, from experiment, that two loads of dung, carried on the land in the spring, are worth three loads carried on in the fall.

Plowing in of Clover, or Buckwheat.—"Have any experiments been made of manuring land with clover, buckwheat, or oats turned, or plowed into the earth before they were ripe; and has any benefit been received?

Mr. Hart, of Berlin. I have made an experiment in plowing up a field, on which I had two years before sown clover. The clover was mowed and yielded a good crop. Soon afterwards I plowed the field and let it lie until I found the clover had matured. I then plowed it again. The land looked very well, and I supposed it much enriched. I sowed wheat, but was disappointed in it, for the crop was poor. I knew, however, that the land was much enriched, and concluded that I was prevented from having a good crop of wheat from other causes, than the land not being well prepared.

Mr. Philips, of Sinsburry. I plowed up a clover field, the second year after it was sown, when the roots were full grown. It was about a fortnight after mowing the land. I let the field lie in this situation about six weeks, then harrowed it well—sowed it with wheat, and plowed in the wheat. The next year I harvested as much as twenty bushels to the acre—The soil was rather dry and sandy.

Mr. Booker, of Farmington. I sowed sandy field with buckwheat. When it was grown and in bloom, I plowed my field in ridges, and covered the wheat. After it had lain about six weeks, I plowed it again in ridges, where the balks were before. Soon after I harrowed the field, and sowed it with wheat. The next summer I harvested an excellent crop.

Mr. Relden, of Wethersfield. I have sown buckwheat, both on sandy land and on loamy land, and plowed it in to prepare the land for wheat. I have had good crops from it, and have found the experiment to succeed to my wishes.—*Transactions of the Conn. Agricul. Society.*

The Farmer's Muck Manual, by Dr. Dana.

We have now read this work with care. Its merits are so great that we invite the attention of intelligent cultivators to its contents. Not because we are prepared to yield unqualified assent to every position taken by the author, nor because we expect that practice will prove his theories sound in all their parts. But because the work bears marks throughout of faithful efforts by an acute and scientific mind, to explain what is needed to make soils fertile, and to show us how the various articles that are usually applied to the soil, produce their favorable action.—*N. E. Farmer.*

Dr. Dana's language is scientific. Probably such language is necessary. We would not require the agricultural chemist to use any other. For who can faithfully describe a ship and its movements, without using nautical phrases? Who can describe minutely the common farmer's operations, without employing terms peculiar to the farm? No one—and in *chemistry*, no words but those that have been appropriated to that science, will convey distinct and correct information.

Dr. Dana has defined what he means by silicates, urates, salts and geine. If one will but understand these definitions clearly, and learn what substances are included under each, he can read the book easily.

The first position taken in the book is, that *agriculturally* "*there is one rock, consequently one soil.*" The next is, "*rocks do not affect the vegetation that covers them.*" The third that "*rocks have not formed the soil which covers them.*" The author's view is, that the loose materials of our globe have been transported and mixed up so, that, for agricultural purposes, they are all much alike, so far as chemical composition goes. To this position a few exceptions are allowed—but not as many as we have been accustomed to suppose facts demand.

The second chapter is upon "the chemical constitution of rocks and soil." The elements of soil as there given are—

The alkalies—Potash and soda.
" alkaline earths—Lime and magnesia.
" earths (acid)—Silex and alumina (sand and clay.)
" metals (alkaline) iron and manganese.

These are *silicates.*

Sulphur, phosphorus, carbon, silicon, united with the bases of the *alkaline silicates*, form *urets.*

The sulphur, phosphorus, carbon or silicon united to oxygen, form *acids.* These acids united to the alkaline silicates, form *salt.*

We wish to say to the common reader, that *salts* in chemistry include many things beside common *salt.* For sulphuric acid, phosphoric acid, carbonic acid, or silicic acid united to either potash, soda, lime, magnesia, iron or manganese, forms *a salt*—a salt of potash, a salt of soda, a salt of lime, &c. Pearlashes is an alkali—vinegar is an acid: put them together, and a new substance is formed—*a salt*—which is neither alkaline nor acid.

This second chapter cannot well be abridged. Farmers would do well to study it faithfully, for if once mastered by them, they will not afterwards be at a loss to understand the common chemical terms used in agricultural papers.

The third chapter treats of the "properties and chemical action of the elements of soil," named above—and in this chapter, Dr. Dana arrives at the conclusion "that all soils contain enough of lime, alkali and other inorganic elements for any crop grown upon them." He does not, however, maintain that these exist in soil, *free.* The natural process of *setting them free*, so that they can act in promoting vegetable growth, are slow. Hence we infer it may be necessary to make to the soil applications that contain alkalies, in a state in which plants can readily taken them up.

Another conclusion reached in this chapter is, "that all soil contains *sulphate and phosphate of lime*"—that is, plaister of Paris and an element of bones. We have not space to give his proofs of this.

Thus far he treats only of *inorganic* matters—those that never had life—either animal or vegetable life.

In the fourth chapter, he considers "the *organic constituents of soil*," or parts of decayed vegetable matter. These organic parts are composed of oxygen, hydrogen, carbon, and nitrogen. These are variously combined. A *variety* of silicates and salts are always found in *plants*—therefore "a soil, (if such can be found,) consisting chiefly of *one* silicate or" *one* "salt, is always barren." Yet, though potash, soda, lime and magnesia, may all be desirable to the plant, *yet* if one of them—lime for example—is wanting in the soil, the others may supply its place. But this cannot be carried so far as to have *any one* element supply the place of *all the others.*

Geine is used by Dr. Dana to "include all the decomposed organic matter of the soil." And this "*geine, in some form,* is essential to agriculture." Generally, the greater part of geine is not soluble in water, and plants cannot feed upon it; but alkalies render it more soluble, and this is one of their beneficial actions upon the soil.

Chapter fourth contains a brief history of Geine.

The fifth chapter is upon *the mutual action of the organic and inorganic elements of soil.* Here we have new views. The author has undertaken to explain *how* lime, ashes, nitrate of potash, nitrate of soda, bones, plaister and all the concentrated manures—he has undertaken to explain *how* all these act, and show how such small quantities may produce the extensive and lasting results which are often witnessed. He reduces all to one general law of action.

Common salt (i. e. muriatic acid and soda) is taken as an example. The *living plant* first separates the salt into its two parts, soda and muriatic acid. The soda then acts at once on *geine*, renders that soluble, and fits it to feed the plant. But what becomes of the *nitric acid?* The plant takes up but little of that. What does this acid do? It acts on the silicates of the soil—it goes to the potash or soda, the lime or the magnesia, the iron or the man-

ganese, and taken out or *setting free* an alkali, it forthwith unites with that alkali, and this forms *a new salt*. The plant will separate *this new salt*—will take up its soda or its lime, or let it act first upon geine, and will let the acid go back to work again upon the silicates to get more alkali out of them, and make *another new salt*. As soon as this salt is formed, the plant separates it and sends the acid back to work once more upon the silicates—and thus it goes. round and round, on and on, until the acid itself is consumed by the plant; for this will happen to it in time.

If the explanation of the action of all these concentrated manures, here offered by Dr. Dana, shall prove to be correct, he will be entitled to the praise of having made a highly valuable discovery in agricultural science. For he will have opened the way for the deduction of rules which may guide us safely in the application of concentrated manures to our fields.

We have no pretensions to chemical science, and therefore are liable to place false estimates upon the reasonings of a chemist. But the view taken in this Muck Manual, of the mode in which the salts act in the soil, is much more satisfactory than any other explanation that has been offered. It will account for their *great* effects, their *long continued* action, and their eventual exhaustion of the soil in cases where geine, in the form of common manures or of swamp muck, is not used in connection with them. —This chapter is worth the dollar which the whole book costs.

Among the *acids* of the salts, some are food for plants while others, unless used very sparingly, are poisonous to vegetation.

Those that *feed* plants are--

1st, Carbonates—as limestone, marble, old mortar, shells, shell marl, ashes of all kinds, and lime of all kinds.

2nd, Nitrates—as nitrate of potash, nitrate of soda, and all composts of either lime or alkali with *animal matter*.

3d, Phosphates—as bone, horn, hair, nails, hoofs and claws, &c.

Those that are poisonous when used *too freely* are—

1st, Sulphates—as plaster, copperas, glauber's salts.

2d, Muriates or Chlorides—as common salt, muriate of lime, bittern, spent ley from soap-works.

This last class, the poisonous, must be used sparingly. Of common salt we would not venture upon the use of more than 12 or 15 bushels per acre. The other class too, those which feed the plants, should not be used in such quantities as to over feed. One may use the carbonates most freely—the nitrates next—and the phosphates the least abundantly.

The next chapter is upon "manures"—here *pure cow dung* is made the standard by which the worth of all others is determined. We are furnished here with analyses of all the common dungs, (excepting hog dung) and also of the urine of different animals. Here we may learn the comparative value of the different manures in common use.

The next or 7th chapter, is upon "artificial manures" and Irrigation. It contains several simple directions for making composts, and assigns a reason why *running* water is so favorable in its action upon grass.

The last chapter treats of the physical properties of soil as embraced under the terms cold, hot, wet and dry land. In these the author finds the chief causes why some soils are quite fertile—others less so—and others almost barren.

We have given this brief abstract of the contents of the book, hoping to cause it to be read extensively. Our statements are too brief to convey much instruction. We have not designed to make them a substitute for the book, but to cause the book itself to find its way to the farmer's fire-side.

The following excellent article on the value of, and mode of cultivating, the Lucerne, is deserving the attention of farmers. It was written by a North Carolinian, and is peculiarly adapted to this section of country.—*Hillsborough Gazette.*

From the S. C. Temperance Advocate.

LUCERNE.

Dr. Darlington describes grass as "having a cylindrical [illegible]ed stem, with the joints solid, and the intervening [illegible]ns hollow, or, in a few instances, filled with a pith-[illegible] substance—the leaves alternate, one originating at [illegible]int, embracing the stem with its base, and forming [illegible] which is slit on each side down to its origin, and the flowers protected by those peculiar envelopes known by the name of *chaff*." Every such plant, he assures us, is a "*true grass*." This description includes Indian Corn, Broom Corn, Sugar Cane, Wheat, &c., while it excludes Lucerne and Clover. Whether Lucerne be entitled to the denomination of a grass or not, it yields to none of them for soil feeding; and besides being more productive and long-lived, as well as more palatable to horses and cows, than red clover, it is free from its salivating quality. In seven years, I have cut thirty-five heavy crops of lucerne from one seeding, averaging five crops a year. The largest number of crops in any one year, was seven, the smallest four. Manure was applied once only during the time, and then as a top-dressing. The soil was a deep red clay, made light by deep ploughing and manure.

I have tried drilling and broad-cast, and much prefer the latter; first, because the number of plants being much greater, the yield is greater; secondly, because the labor of cultivation is saved. Some suppose that without annual culture with the plough or hoe, the plant must lose its vigor, and be overpowered by weeds and grass. Such is not the result of my experience. I have eradicated blue grass—the enemy most to be dreaded—by coaltering, and cross coaltering, harrowing, and cross harrowing, until every root of the blue grass is torn up and the surface of the ground completely pulverized, and then raking off the blue grass. This is to be done in the winter, once in three years, and a good top-dressing of rich manure should follow. I have used ashes and stable manure, separately and combined. The two combined, have given the best product.

PREPARATION OF THE GROUND.

Plough or spade deeply; pulverise completely; manure richly. Break up the ground in the fall, and the winter frosts will mellow it.

QUANTITY OF SEED TO THE ACRE.

If the seed be very good, the season very favorable, and the sowing done in the best manner, two gallons may suffice, but under any circumstances I would sow twice that quantity.

TIME OF SOWING.

Lucerne, like clover, if sown in the fall, will survive a moderate winter, and be destroyed by a severe one. I prefer sowing in September nevertheless, and running the risk. Should it survive the winter, it will give several good crops the ensuing year. Should it be destroyed, the ground is in fine condition the next spring for any crop you please. You may, in that event, sow lucerne again in the spring, or, after gathering a heavy crop of corn, run the same risk again next fall.

When sown in the spring, the lucerne does not give a crop till the next spring. After attaining to the height of six inches, it begins to wither, and its sickly aspect induces in the inexperienced, the fear that his labor is lost. It will however bear the scythe without injury; and mowing is commonly necessary to destroy the weeds. If sown in the spring, the best time is from the middle or end of May, to the middle of June, the ground having been ploughed several times lightly at intervals of two or three weeks, until the superficial seeds of grass and weeds have been destroyed.

MANNER OF SOWING.

The ground being prepared as above described, and made as smooth and level as possible, by means of the harrow and brush, mark it off with a hand plough, or a small pole from the wood pile, into lands of six or seven feet, and scatter the seed as uniformly as possible; (it would be well to moisten the seed with warm water, two or three days previously to sowing:) and then apply a heavy roller once, or a light one twice, and the work is done. The value of the roller is so little known in the South, that many of our great (large I should say,) farmers, are without that indispensable instrument. If you can't get a roller, the difficulty is easily obviated, by first ascertaining from a weather witch, when there will be a hard rain, brushing in the seed just before it, and letting the shower do the work of the roller.

P. S. I have seen it stated, and do not doubt the fact, that one seeding of lucerne will last twenty years.

From the Zanesville Gazette.

AGRICULTURAL PRODUCTIONS OF THE UNITED STATES.

In some parts of the United States, the soil and climate are favorable to the production of rice. In 1839, the aggregate product of the Union is set down at 80,481,422 pounds. This product was confined to thirteen states or territories, viz: Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee, Kentucky, Illinois, Missouri, Arkansas, and Florida. In South Carolina and Georgia, it is cultivated to much the greatest extent.

"There is little reason for doubting that this grain is of Asiatic origin.* From the earliest records it has formed the principal, if not the only food of the great mass of the population on the continent and islands of India and throughout the Chinese empire."

"The introduction of rice as an object of cultivation in America, is of very modern occurrence. The author of a work 'on the importance of the British Planters in America,' which was published in London during the year 1701, has recorded, as a circumstance then recent, that a brigantine from the island of Madagascar happened to put in at Carolina, having a little seed-rice left, which the Captain gave to a gentleman by the name of Woodward. From part of this, he had a very good crop, but was ignorant for some years how to clean it. It was soon dispersed over the province, and by frequent experiments and observations, they found out ways of producing and manufacturing it to so great perfection that it is thought to exceed any other in value."

"The swamps of South Carolina, both those which are occasioned by the periodical visits of the tides, and those which are caused by the inland floodings of the rivers, are well suited for the production of rice; and not only is the cultivation accomplished with trifling labor, but the grain proves of remarkably fine quality."

"The cultivation of rice is found to be extremely unhealthy to the negroes employed in its prosecution. The alternate flooding and drying of the land in so hot a climate, where natural evaporation proceeds with great rapidity, must necessarily be prejudicial to health. To avoid exposure to this unwholesome atmosphere, the whole white population abandon the low grounds to the care of the negro cultivators. The mortality thus occasioned among the laborers in the rice districts is so great, that while the general increase of population in the states exceeds by far that realized in the older settled countries of Europe, fresh supplies of negro slaves must continually be brought to repair the waste of life, from the more northern slave states of the Union."

In the southern portions of Europe, rice is cultivated to some extent with profit; but as the same unwholesome effects are experienced there as in Carolina, some of the governments find it expedient to restrict the cultivation within a certain limit, beyond which the production is not allowed.

As has been before remarked, large quantities of rice are produced in China and the other countries of India, and it there constitutes the principal food of the inhabitants. The British possessions in India yield this grain in vast abundance, a considerable portion of which is pronounced equal to the best produced in the Carolinas.

Latterly, this article has been looked to as an important article of export from these possession, and large quantities are annually sent to the British West India Islands, where the supply has hitherto been derived principally from the United States. "In 1838, Calcutta, exported to Mauritius and Bourbon, 151,923,696 lbs., worth $4,557,710. or double the amount we annually export. In 1836, 66,000 bags of cleaned rice were imported into Liverpool from the East Indies, and only 450 casks of Carolina. In 1839, 97,000 [bags] of East India rice, and none of Carolina."†

Of the ability of India to compete with the United States in the production of rice, there can be no doubt, and it should be borne in mind that it is Britain's invariable policy to produce if she need as far as is practicable from her own territory,—and hence we may confidently expect that her production of this article will increase in proportion as the demand may render it expedient. The best American machines for cleaning are now in use on the Ganges.

The peculiarities of soil required for the production of rice, and the difficulties attendant on its cultivation, will probably prevent its being greatly extended in the United States.

Sugar.—The whole number of pounds of sugar made in the United States in 1839, is put down at 155,110,809. Louisiana produced 119,947,720 pounds—which is more

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* Library of Entertaining Knowledge.
† Albany Cultivator for Nov. 1841.

than ten times the quantity produced in any other state. Mr. Ellsworth, the Commissioner of Patents, in his statistics of Agriculture of the United States, for 1841, says, —"The progress of the sugar manufacture and the gain upon our imports has been rapid. In 1839, the import of sugars was 195,231.273 pounds, at an expense of at least $10,000,000, in 1849, about 120,000,000 pounds; at an expense of more than $6,000,000. A portion of this was undoubtedly exported, but most of it remained for home consumption. More than 30,000,000 pounds of sugar, also, from the maple and the beet root, were produced in 1841, in the Northern, Middle, and Western States; and should the production of cornstalk sugar succeed, as it now promises to do, this article must contribute greatly to lessen the amount of imported sugars."

"Sugar must be considered one of the most valuable vegetable substances with which civilized man has become acquainted. So varied and extensive are its uses, and so greatly does it minister to the social gratifications of mankind, that, we are justified in ranking it as inferior only in the vegetable economy to the cereal grains."

The SUGAR CANE, a *Saccharum officenarum*, must be considered as a native of China, since it has been pretty accurately ascertained that its cultivation was prosecuted in that empire for two thousand years before sugar was even known in Europe, and for a very long period before other eastern nations became acquainted with its use. For some time after this substance in its crystalline form, had found its way to the westward, through India and Arabia, a singular degree of ignorance prevailed in regard to its nature and the mode of its production, and there is reason for believing that the Chinese who have always evinced an unconquerable repugnance to foreign intercourse, purposly threw a veil of mystery over the subject."

Sugar is produced largely in the southern portion of Asia, the islands of the Indian ocean, in the West India islands, and in some parts of South America. The sugar cane has also been cultivated to some extent in the southerly part of Europe, and was carried from Spain by Columbus, to the New World.

Hemp and Flax.—Hemp is raised in considerable quantities in Kentucky, and in Ohio, and some of the other western States, it is cultivated in some sections but not generally. The article is of great value as furnishing the raw material for supplying our naval and trading vessels with canvass. Repeated experiments have demonstrated the fact that articles made from the Kentucky hemp are equal in strength and durability to the best Russian, and there is no doubt that our soil is capable of supplying all our wants in this line. The whole amount of hemp and flax produced in 1839, is stated at 95,251¾ tons—of which Mr. Ellsworth thinks more than one half should be allotted to flax.

Tobacco.—Kentucky, Tennessee, North Carolina, Virginia, and Maryland, are the principal tobacco growing States. According to the returns, the whole quantity produced in the Union in 1839, is 219,163,219 pounds. The exports of tobacco in various forms for the same year, amounted in value to $10,449,155—and according to Mr. Ellsworth there was exported in 1840, about 144,000,000 pounds. The greater part of this went to England France, Holland and Germany.

Silk.—Notwithstanding the disappointment and loss attending the speculation in the *Morus Multicaulis* and other varieties of the mulbery, there has evidently been a steady increase in the attention devoted to this business. It has undoubtedly made great progress since 1839. For instance, the whole value of silk, in all its forms, in this state, (Ohio) for the year mentioned, was only $3,740, while a single establishment in the same state, Mr. Gill's, sold more than three times that amount of manufactured goods last year—and will probably treble last year's amount the present year. In all parts of the country, from Louisiana to Maine, the people are entering on the business in earnest, and there is no longer any doubt of its practicability and ultimate success. In the language of Mr. Ellsworth, "it needs only a rational and unflinching devotion to this object, to place our country soon among the greatest silk-producing countries in the world." I shall have occasion to refer to this article in a future number.

A FARMER.

BALTIMORE MARKET.

Rail Road Orders.—The brokers have been buying to-day at 40¼ per cent. discount, which is a further improvement.

Virginia Bank Notes.—We continue to quote the notes of the Virginia Banks generally at 8¼ per cent. discount and those of the Wheeling Banks at 13 per cent discount.

Flour.—The receipts of Howard street are light, and the stock on hand much reduced. To-day sales of a few hundred barrels were made at $5,50; but holders generally refuse to sell at less than $5,62½. The wagon price to-day is $5,37½a $5.50.

We hear of no sales of City Mills Flour. It is held firmly at $5,75.

There is little or no Susquehanna Flour in market.

Grain.—No wheat at market. The last sale of Md. red was at $1.25. Sales of Corn to-day at 55a56 cts. for white, and at 56 cts. for yellow. We quote yellow at 56a58 cts. The last sale of Md. Rye was at 65 cts. Several cargoes of Virginia Oats were sold on Saturday and to-day at 38a41 cts. We quote Maryland as worth 40a42 cts.

Provisions.—Very little demand for any descriptions of Provisions. The last sales of Mess Pork were at $8,50, 4 months, and of Prime new at $6.—We continue to quote both Baltimore and Western packed Mess at $8a8.50, No. 1 at $7 a7.50; and Prime at $6a$6.50. New Baltimore packed Mess Beef is held at $9,50; No. 1 at $6,50; Prime at $4,50, and family Mess in half barrels at $6,50. The stocks of Western Bacon continue very large, and the few sales making are at former rates. We quote Western Hams at 5a8 cents; Sides at 4a4¼ cents; Shoulders at 3¼ cents; Joles at 2 cents; Baltimore cured Hams at 7½a8¼ cts; Sides at 5 cents, and Shoulders at 4a4¼ cents.

Hogs—The market has been fully supplied with Live Hogs during the week, and prices have ranged from $3,50 to $4 with moderate sales only.

Cotton.—We hear of no transactions this week. Most of the Cotton Factories in this vicinity have been put on half time.

Fish.—Some few lots of new Shad from the North Carolina and Potomac Fisheries have reached the market and sold at about $7,50 per bbl. in small lots. The demand is not brisk, owing perhaps to the earliness of the season. Parcels of new Herrings from the Potomac have also been received, and sales were made at 3,12½, and more recently at $3, at which price they are held to-day. The inspections of the week are 785 bbls. Shad and 146 bbls. Herrings.

Timothy seed.—We quote the store price at $2,50a$3 as in quality with but little demand.

Molasses.—At auction on Tuesday 170 hhds P. Rico were sold at 20¼ cts. To-day 100 bbls. New Orleans were sold at auction at 15a17 cts.

Sugars.—The already large stock of Sugars in market has been increased by the arrival this week of 529 hhds. and 10 bbls. from Porto Rico; 160 hhds. and 201 bbls. from Cuba; and 109 hhds. and 7 bbls. from New Orleans. At auction on Tuesday 278 hhds. Porto Rico were sold at $4,40a$6,50, and 35 hhds. New Orleans at $4,05a$4,25. At auction to-day 70 hhds. Porto Rico were sold at $4,50a$5,40, 150 hhds. Cuba offered, and 92 sold at $4,15a$4,30; and 150 hhds. New Orleans at $2,30a$4,30. The cargo of the schr. Arkansas, from Porto Rico, was offered to-day, but withdrawn after selling 5 hhds. at $4,85.

Tobacco.—The receipts continue unusually large for the season. Throughout the week there has been a very fair demand for Maryland Tobacco, and the transactions are tolerably large. Former prices are fully supported, but we can find no improvement worth noting. In occasional instances, a little more is paid for parcels answering particular purposes. We continue former quotations, viz: inferior and common Maryland at $3a$4; middling to good $4,50a$6,50; good $7a$8; and fine $8a12. The better descriptions of Md. are wanted—good ripe reds and spangled parcels would readily bring $5,50a$6.50, and $7. There has also been more inquiry for Ohio, and sales to some extent were made at former prices, which we continue, viz: common to middling $3,50a$4,50; good $5a$6; fine red and wrappery $9.50a$10; fine yellow $7.50a$10; and extra wrappery $11a$13. The inspections of the week comprise 952 hhds. Maryland; 181 hhds. Ohio; and 186 hhds. Kentucky—total 1329 hhds.

New York, Saturday, 2 P. M.—The sales of Cotton are 800 bales. Flour stands precisely as for some days past. Corn is in demand and worth some advance. Jersey yellow sold at 61c. and Southern would probably command 58 cents. Exchanges, including Certificates and Checks.—Boston ¼, Philadelphia par. Baltimore ¼, Richmond 8¼, Raleigh 5¼, Wilmington do. Charleston 1¾, Augusta 3, Macon 15, Savannah 3¼, Mobile 20, Interior Ala 22a25, New Orleans 7, St. Louis 16a20, Louisville 5a6, Cincinnati 6¼, Nashville 18a20.

Philadelphia, April 9.—Sales this week of about 3000 bushels prime Penn'a. Wheat for milling at 120c. per bushel, Corn is in demand, owing to the light receipts, we quote Southern yellow at 58 cts. white do. 54a55c. Penn'a. round yellow at 60c. per bus. Southern Oats 42a43 cents per bushel. Flaxseed has declined to $1,65, and Clover to $4a4.25 per bushel. Beef Cattle, 400 head at market—sales were $5¼ to $6,50—extra $7.

At New Orleans, in the three days ending on the 2nd instant, the sales of Cotton amounted to 17,000 bales, averaging middling to middling fair, 7¼a8¼c. Tennessee and North Alabama 6¼a9c. The following were the quotations:—Liverpool classification.—Inferior 5a6, Ordinary 6¼a6¾, Middling 7¼a7¾, Middling fair 8¼a9, Good fair 11, Good and fine 12a13, N. Ala. and Tenn. 4a9, Fair Crops 7¼. No change had taken place in the Sugar market, Peas 2¼a3c for inferior, 3¼a4c for fair, and 4¼a5 prime. Molasses dull at 14a15c. Flour $5a5,50. Mess Pork $7,50, mess Beef $10a11.

At Alexandria, on Saturday, Flour sold from wagons at $5.50 up to $5.81, receipts light, from stores at $5.75a$5,87½. Wheat $1,10a$1,15 from wagons. Very little Corn arriving —article wanted.

METEOROLOGICAL TABLE,

Kept at Schellman Hall, near Sykesville, for March, 1842.

	WIND Mor.	N'n.	Eve.	TEMPERATE. Mor.	N'n.	Eve.	REMARKS.
1	SE.	S.	E.	44	60	56	Cloudy. Clear.
2	SE.	S.	S.	54	70	64	Rain. Clear, Shower.
3	W.	S.	S.	50	75	70	Clear.
4	S.	SW.	SW.	55	75	70	Clear. Gust. Clear.
5	W.	W.	N.	58	71	65	Clear.
6	E.	E.	E.	45	65	54	Fine Rain. Cloudy.
7	E.	S.	SW.	47	50	41	Cloudy. Rain.
8	N.W.	W.	S.	30	50	40	Clear.
9	S.	S.	S.	40	45	57	Rain. Cloudy.
10	W.	SW.	SW.	45	65	45	Cloudy.
11	SW.	W.	W.	57	60	45	Cloudy. Clear.
12	W.	E.	E.	22	40	35	Clear. Snow
13	SE.	NW.	NW.	33	59	50	Cloudy. Clear.
14	NE.	NW.	NW.	40	45	37	Cloudy. Snow Hail
15	E.	W.	W.	35	57	45	Frost. Clear.
16	SW.	S.	SE	30	60	51	Clear.
17	S.	S.	S.	45	74	65	Clear.
18	W.	S.	SE.	50	74	66	Clear.
19	E.	SW.	W.	45	84	75	Foggy. Clear.
20	W.	W.	E	65	85	75	Clear.
21	NE.	E.	E.	45	45	36	Cloudy. Rain.
22	E,	N.	N.	36	45	40	Cloudy
23	N.	E.	E.	37	45	40	Cloudy
24	SE.	SE.	E.	36	40	37	Cloudy Rain
25	E.	E.	E.	40	45	46	Rain Cloudy Gust
26	W.	W.	W.	46	55	43	Cloudy
27	NW.	W.	W.	32	60	58	Frost Clear
28	W.	NW.	NW.	35	60	4.	Clear.
29	W.	SE.	SE.	30	57	53	Frost Clear
30	S.	SW.	SW.	45	75	70	Clear.
31	W.	NW.	NW.	50	60	43	Foggy Clear

MINGO CHIEF,

Will make his first season in Maryland, and be let to Mares at the Farm of Mr. J. P. E. STANLEY, 4 miles from Baltimore, on the Frederick road, at TEN DOLLARS for each Mare.

MINGO CHIEF is five years old this spring, near fifteen hands high, of a rich brown colour, perfectly formed for speed and action, goes all gaits naturally, and is very fast under the Saddle.

MINGO CHIEF was got by an Indian Horse, (grandsire of the famous trotting horse Beppo, and many other celebrated trotters and rackers;) that in his prime has racked his mile in 2—30, and although upwards of 20 years old, is still kept for Mares in Canada.

The dam of Mingo Chief was pure Canadian, and could trot a mile in 3 minutes without training. Mingo Chief was selected during the last summer in the neighborhood of Montreal, by a gentleman experienced in these matters, as being the best horse he could find to cross upon the stock of this part of the country for the production of Saddle Horses. The celebrated Morgan Breed of Vermont is said to be of the same cross.

Season to commence 1st April and end 1st August.

ap 13 E. WEEKS, *Manager.*

LIME—LIME.

The subscriber is prepared to furnish any quantity of Oyster Shell or Stone Lime of a very superior quality at short notice at their Kilns at Spring Garden, near the foot of Eutaw street, Baltimore, and upon as good terms as can be had at any other establishment in the State.

He invites the attention of farmers and those interested in the use of the article, and would be pleased to communicate any information either verbally or by letter. The Kilns being situated immediately upon the water, vessels can be loaded very expeditiously. N.B. Wood received in payment at market price.

ap. 22 3m E. J. COOPER.

SEED-STORE & AGRICULTURAL WAREHOUSE.

The subscriber has for sale at the old stand, No. 176 MARKET STREET, PHILADELPHIA, the most extensive assortment of GARDEN, GRASS and FLOWER SEEDS, to be found in the U. States. The assortment comprises all the standard varieties: also many new and choice kinds, crop of 1841, and warranted of the best quality.

ALSO,

PROUTY & MEARS' Centre Draught self sharpening PLOUGHS, the best and cheapest Ploughs to keep in repair now in use;

Also, PROUTY & MEARS' patent SUB-SOIL PLOUGH. This implement does the work to admiration, leaving the sub-soil in the best possible manner.

Also, Straw Cutters, Corn Shellers, Fan Mills, Vegetable Steamers, Cultivators, hill-side Ploughs, left hand Ploughs, and GARDEN TOOLS of all kinds—Agricultural BOOKS, &c. &c. for sale at wholesale and retail at the lowest prices, by

D. O. PROUTY,

No. 176 Market street, between 5th & 6th streets,

mh 15 2m Philadelphia.

FARMER'S REPOSITORY,
PRATT ST. BALTIMORE.

Constantly on hand a large assortment of PLOUGHS made of prime materials and good workmanship, and of most approved patterns; Davis' improved ploughs, of all sizes with cast and wrought shares; King's Connecticut ploughs, simplified and improved with cast and wrought shares, the Davis cast points, to suit the ploughs, likewise Evans reverse point or self-sharpening ploughs. All the above named ploughs are particularly adapted to the Eastern shore and lower counties of this State, as also the entire Southern country; also various other make of ploughs which have given great satisfaction to those who have used them; hill side and shovel ploughs; very superior plain and expanding Corn and Tobacco Cultivator, these can be recommended as being superior to any other article of the kind made in this State; four different patent Corn planters and seed droppers viz: Bachelder's, Osgood's, Old's and Robin's, and almost every other article in the agricultural line. A Foundry is attached to this establishment, and a large supply of plough castings are constantly kept on hand, which will be sold wholesale and retail as low as can be purchased in the City.

On hand—Horse Powers, Threshing Machines, Wheat Fans, &c. Also, a large supply of Cylindrical Straw Cutters, with wood and iron frames, from $32 to $110, and to meet the exigences of the times, and to encourage cash sales, a liberal discount will be made.

JONATHAN S. EASTMAN,
ap 13 Sole Proprietor.

PROUTY & MEARS' $100 PREMIUM PLOUGH.

Received at the office of the American Farmer, two sizes of the above celebrated plough, to which was awarded the prize of $100 at the Massachusetts Fair. Farmers and others are invited to call and examine them. Orders received for them, as also for the Wiley and other ploughs, by m 30 SAML. SANDS.

BADEN CORN.

The subscriber has received from Mr. Baden a lot of this celebrated CORN—and those wishing to make a trial of it can obtain it lots of a peck, bushel or larger quantity. Apply to
mh 16 S. SANDS.

Who has for sale two beautiful DEVON HEIFERS, nearly two years old, deliverable in this city for $50 each. Also a very handsome Devon BULL, one year this spring, price $50, and a HEIFER of same age and blood, price $40. mh 15

Also a few bbls. POUDRETTE.

FRESH GARDEN SEEDS.

ROBERT SINCLAIR, Jr. & CO. No. 60 Light st. have just received, (via New York,) by the ships Gladiator and Quebec, and from their Seed Gardens, near this city, a superb assortment of GARDEN AND EUROPEAN FIELD SEEDS, among which are Knight's extra early dwarf; Vanac Pontrefact early York, and Sinclair's early flat Dutch or Landreth's improved Cabbage Seed; *all new and superior sorts.*

Seventy-five bushels Sinclair's extra early Peas.

Knight's and Groom's marrowfat, egg and several other new varieties of Peas.

600 lbs. scarlet short top and turnip Radish Seed.

Half long and turnip Beet; color very dark and finely shaped.

Early cup Parsnip; Brocoli; Cauliflower.

Lettuce, Large red and yellow Globe Mangel Wurzel; the latter a new variety.

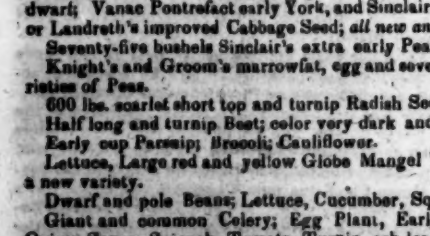
Dwarf and pole Beans; Lettuce, Cucumber, Squash;

Giant and common Celery; Egg Plant, Early Corn, Melons, Onion, Savoy Spinach, Tomato, Turnip, ash leaved Kidney, early frame and London round Potatoes; Lucerne, Vetches, &c. &c.

In store—American Field Seed of all sorts; Garden and Farming Tools, books on agriculture and management of stock, Plough and Machine Castings, Ploughs and Agricultural Machinery. A large and general assortment.

TREES AND PLANTS; raised at the Clairmont Nurseries.

MARTINEAU'S IRON HORSE-POWER



The above cut represents this horse-power, for which the subscriber is proprietor of the patent-right for Maryland, Delaware, and the Eastern Shore of Virginia; and he would most respectfully urge upon those wishing to obtain a horse power, to examine this before purchasing elsewhere; for beauty, compactness and durability it has never been surpassed.

Threshing Machines, Wheat Fans, Cultivators, Harrows and the common hand Corn Sheller constantly on hand, and for sale at the lowest prices

Agricultural Implements of any peculiar model made to order at the shortest notice.

Castings for all kinds of ploughs, constantly on hand by the pound or ton. A liberal discount will be made to country merchants who purchase to sell again.

Mr. Hussey manufactures his reaping machines at this establishment.

R. B. CHENOWETH,
corner of Front & Ploughman sts. near Baltimore st. Bridge, or No 20, Pratt street. Baltimore, mar 31, 1841

500 BARRELS OF POUDRETTE,

For sale at the office of the NEW-YORK POUDRETTE company, 120 Nassau street, New York—Price two dollars per barrel, containing FOUR bushels heaped measure each, delivered on board of any vessel in this city.

☞ *Present* prices of *shares* in this company, *one hundred and ten* dollars each entitling the holder to *one hundred* bushels of poudrette annually, during the continuance of the charter, 17 years from next March; which at *present prices* will be equivalent to a return of the capital and over five per cent annual interest every *three years*. Those who took shares in the winter of 1837—8 *have received three hundred* bushels on each share; and are entitled to *seventeen hundred* more. Those who desire shares will do well to apply soon, as they will not be sold at that price after 1st. May next—address the agent, D. K. MINOR, 120 Nassau St. up stairs.

New York, January 16th 1842.—feb. 2 7t

REAPING MACHINES, CORN AND COB CRUSHERS, CORN SHELLERS, &c. WARRANTED.

The Reaping Machine stands alone, increasing in reputation from year to year, saving its first cost in one large crop in the waste alone, while the attempts of others, to construct machines for a similar purpose, are well known to be total failures. Those who wish to procure Machines for the ensuing harvest, are requested to make early application to the subscriber, who has greatly improved them since last year. Corn and Cob Crushers, warranted superior to all others, also, Corn Shellers and Huskers constantly on hand at reduced prices. fe 23 OBED HUSSEY.

TO FARMERS.

The subscriber has for sale at his Plaster and Bone Mill on Hughes street, south side of the Basin, GROUND PLASTER, GROUND BONES, OYSTER SHELL & STONE LIME, and LEACHED ASHES, all of the best quality for agricultural purposes, and at prices to suit the times.

Vessels loading at his wharf with any of the above articles, will not be subject to charges for dockage or wharfage

fe 23 WM. TREGO, Balfimore.

AGRICULTURAL MACHINERY,

Manufactured and for sale by A. G. & N. U. MOTT
South east corner of Ensor and Forest sts. near the Bel-air market, Old Town, Baltimore,

Being the only agents for this state, are still manufacturing WILEY'S PATENT DOUBLE POINTED COMPOSITION CAPT PLOUGH, which was so highly approved of at the recent Fair at Ellicott's Mills, and to which was awarded the palm of excellence at the Govanstown meeting over the $100 Premium Plough, Prouty's of Philadelphia, and Davis' of Baltimore, and which took the premium for several years at the Chester Co. Pa. fair—This plough is so constructed as to turn either end of the point when one wears dull—it is made of composition metal, warranted to stand stony or rocky land as well as steel wrought shares—in the wear of the mould board there is a piece of casting screwed on; by renewing this piece of metal, at the small expense of 25 or 50 cts. the mould board or plough will last as long as a half dozen of the ordinary ploughs. They are the most economical plough in use—We are told by numbers of the most eminent farmers in the state that they save the expense of $10 a year in each plough. Every farmer who has an eye to his own interest will do well by calling and examining for himself. We always keep on hand a supply of Ploughs and composition Castings—Price of a 1-horse Plough $5; for 2 or more horses, $10.

We also make to order other Ploughs of various kinds.

MOTT'S IMPROVED LARGE WHEAT FAN, which was so highly approved of at the recent Fair at Ellicott's Mills and at Govanstown, as good an article as there is in this country—prices from 22 to $25.

A STRAW, HAY AND STALK CUTTER,

With 20 knives attached, will cut 3 tons of straw per day by horse power, and one half by manual power. Price $35.

A CORN SHELLER that will shell as fast as two men will throw in, and leave scarcely a grain on the cob nor break a cob, by manual power; price $17.

CULTIVATORS with patent teeth, one of the best articles for the purpose in use, for cotton, corn and tobacco price $4, extra set of teeth 1.

HARROWS of 3 kinds, from 7 to $12.

GRAIN CRADLES of the best kind, $3.75.

HARVEST TOOLS, &c.

Thankful for past favors we shall endeavor to merit a continuance of the same. ja 26 tf

MOTT'S AGRICULTURAL FURNACE.

The subscriber respectfully informs his customers, and the public generally, that he has on hand, and intends constantly to keep, a supply, of MOTT'S JUSTLY CELEBRATED AGRICULTURAL FURNACES, for cooking vegetables and grain for stock of all kinds. They vary in size from HALF a barrel to FOUR barrels, and are better adapted to the purpose for which they are intended than any other yet invented; obtained the premium of the American Institute, and have given satisfaction to every gentleman by whom they have been purchasedr. Col. C. N. BEMMNT, the distinguished agriculturist near Albany, New York, who has had one in use for some time, in a letter to the editor of the Cultivator, says.

"The one I purchased last fall, I continued to use during the winter, and have found no reason to alter the opinion then expressed; but on the contrary, I am more confirmed, and do not hesitate, without qualification, to recommend it, with the ate mprovements, as superior to any thing, for the purpose intended, which I have ever used, or which has fallen under my observation."

"Mr. Mott has lately sent me one of the capacity of two barrels, containing the improvements, which consist in casting "points of attachment" or gudgeons, on the rim or sides of the kettle, "so that with a crane or level" it may be raised out of the casing and the contents emptied out, and to facilitate which, a loop or eye is cast on the bottom of the kettle so that it can be done without burning the fingers. The flange also, has been extended beyond the edge of the casing, so that if water boil over it will not run down the flues and put out the fire."

These furnaces and boilers are portable and may be set up in any out-house, being from their compactness and conteruction perfectly safe. The furnaces are made of cast iron and peculiarly calculated to economise fuel.

The following are the prices for one of the capacity of a half barrel $12,50

do	do	do	One barrel	20,00
do	do	do	One and a half	24,00
do	do	do	Two barrels	28,00
do	do	do	Three do	38,00
do	do	do	Four do	48,00

A. WILLIAMS, Corner of Light & Pratt St. Balt. Md.
de 15 tf

FRESH GARDEN SEED.

THOMAS DENNY Seedsman, has received his fresh supply of Garden Seed, the growth of 1841, and invites his friends and the Public to give him a call.

He has also Field Seed of various kinds, and best suited for this climate and soil, selected with care.

Orders for Apple, Peach and other Fruit and Ornamental trees will be thankfully received, and duly executed with promptness and dispatch for *cash*, having made arrangements with an old established and well known Nurseryman, in whom he feels confident the public cannot be deceived as to the particular kinds *ordered*. Also, *Shrubs, bulbs*, Hothouse Plants, Dahlias, Evergreens &c. &c. in their greatest varieties furnished to order at regular prices, on commission.

He has also the agency for selling Murray's Corn and Cob Crushers at the regular manufacturing prices. This is a first-rate article, having been proved by many Eastern Shore Farmers and others to be a very efficient Machine, uniting strength and simplicity in its structure.—It operates by hand, or can be adapted to any other power to suit all classes of farmers.

Thos. Denny,
Corner of Pratt & Grant sts.
Fe23 7t—A2aw4tif ☞ Up-stairs over Tyson & Brother.

"PATENT CONVOLUTED STEAM BOILER."

The subscriber is prepared to receive and fill orders for Paten Steam Boilers at the shortest notice, and flatters himself that the certificates which he is enabled to present from the persons who have already tested the value and saving of this invention, will induce farmers and others to make early application for so useful and economical an invention.

Place of manufacture, M'Causland's old Brewery, Holliday st. between Pleasant and Saratoga sts.

C. W. BENTLEY.

To D. L. Pickard, Esq.—Dear Sir—Having made a careful experiment with your boiler in comparison with one of a different construction, both used for the same purpose, I have no hesitation in saying that it surpasses every boiler I have either seen or heard of for its economy in time and fuel. And I take pleasure in recommending it to all persons who are daily using twenty-five gallons of water or upwards—they will save at least two thirds in fuel and one half time. ISAAC DENSON, Superintendent, of Balto. City and County Alms House.

August 28th 1841.

The undersigned, the assignee of the newly invented "Patent Convoluted Steam Boiler," solicits the attention of the public generally, but more particularly of the farmers throughout the Southern countries, to the advantages of this invention. By means of a small boiler, measuring about 2½ feet in length and 1½ feet in breadth, three or four hundred gallons of water may be kept at the boiling point for two hours with scarcely four cubic feet of wood. The room saved is about four-fifths—the size of the patent boiler being hardly one-fifth the bulk of ordimary steam boilers—the expense saved has been calculated to be about five-sixths of the usual cost of fuel. Already has this invention been introduced into some of our public institutions, where its advantages have been fully tested and found to exceed the most sanguine expectations, as will be seen by the testimonials annexed To farmers and producers this boiler is inestimable in furnishing a cheap and expeditious mode of steaming provender for cattle.

Baltimore, July 19, 1841.

Mr. D. L. Pickard: I take pleasure in stating that your Boiler has given great satisfaction. By way of experiment, I boiled two hundred gallons of cold water in forty minutes—using only two small sticks of pine wood of 30 lbs. weight. Compared with the use of kettles of ordinary construction, this is a saving of three fourths in fuel and four sixths in time.

J. PASQUAY, Leather Dresser.

The undersigned has for some months been using one of D. L. Pickard's convoluted Boilers in his Morocco Factory, and for the saving of time and fuel it excels every thing of the kind he has seen in operation. From a general calculation he is satisfied, that it saves more than two thirds of the fuel. He has boiled two hundred gallons of water in forty minutes with two small sticks of pine wood, and with four sticks of wood, kept four hogsheads of water boiling during six hours.

A. V. COZINE, Morocco Dresser,
Pearl street, near Lexington.
Baltimore, August 21, 1841.

Maryland Penitentiary.—Having purchased, for the use of this Institution one of D. L. Pickard's patent convoluted Steam Generators, and having used the same during the space of four months in cooking for several hundred prisoners, I find it admirably suited to this purpose. The Boiler now in use is 20 inches in diameter and 22 inches in length, taking the place of five iron kettles, yet steams meats and vegetables and does all other boiling incident to the process of cooking in a better manner than by any other plan of which I have any knowledge, and at a much less cost of fuel. In the use of the iron kettles set in brick in the ordinary way, the consumption of wood was more than one half cord per day, but with the present arrangement, the consumption is only one twelfth of a cord in the same time, and cooking done more perfectly. WILLIAM HOULTON, Warden.

I fully concur in the statement above.
LINDSEY STURGEON, Ass't
The Meadows, Balt. Co. Jan. 14, 1841.

"As to the steamer it is all that I could desire, as to the saving of time, fuel, and room, it is not to be excelled; one hand besides aitending to my "piggery" containing upwards of 32 store pigs and two "breeders" steams daily all the roots which said pigs consume, and from fifty to one hundred bushels of cut corn stalks, for my cattle daily; my vat for steaming fodder, i. e. cut corn stalks contains fifty bushels, (which by the by is inconveniently large) it will steam this quantity in about two hours, after ebullition takes place; a friend has seen it at work and is very much pleased with it.

Respectfully, ROBERT DORSEY, of Edward.
ja 19 tf